WHAT IS CLAIMED IS:

1. A picture matching processing system, comprising:

5   a window picture cutting part for cutting out characteristic window pictures from a previously captured recognition target picture;

a capturing environment variation influence evaluating part for evaluating the influence of variations in a capturing environment of the cut out window pictures; and

a window picture selecting part for selecting a window picture in 10   which the influence of variations in a capturing environment is at a predetermined level or less among the cut out window pictures, based on results of the evaluation of the influence of variations in a capturing environment,

wherein picture matching is conducted by using the selected window 15   picture.

2. A picture matching processing system according to any one of claims 1, comprising a recognition target picture region cutting part for detecting a recognition target picture region from each picture of the picture group, and 20   setting the recognition target picture region as a cut out picture group.

3. A picture matching processing system according to any one of claims 1, wherein the capturing environment is a relative position and a relative direction between a recognition target and a camera.

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4. A picture matching processing system according to any one of claims 1, comprising a window picture selection result display part for displaying selection results of a window picture by the window picture selecting part, and a window picture selection correcting part for correcting selection of a window 30   picture by the window picture selecting part.

5. A picture matching processing system, comprising:

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a picture group input part for previously inputting a plurality of pictures of a recognition target in different capturing environments to organize them as a picture group;

a first window picture cutting part for cutting out a first characteristic window picture group from each picture of the recognition target, based on a first standard in which variations in a capturing environment are not considered;

a second window picture cutting part for cutting out a second characteristic window picture group from each picture of the recognition target, based on a second standard in which variations in a capturing environment are considered; and

a robust window picture selecting part for selecting, as a robust window picture, a window picture contained both in the first window picture group cut out based on the first standard and in the second window picture group cut out based on the second standard,

wherein picture matching is conducted by using the selected robust window picture.

6. A picture matching processing system according to any one of claims 5, comprising a recognition target picture region cutting part for detecting a recognition target picture region from each picture of the picture group, and setting the recognition target picture region as a cut out picture group.

7. A picture matching processing system according to any one of claims 5, wherein the capturing environment is a relative position and a relative direction between a recognition target and a camera.

8. A picture matching processing system according to any one of claims 5, comprising a window picture selection result display part for displaying selection results of a window picture by the window picture selecting part, and a window picture selection correcting part for correcting selection of a window picture by the window picture selecting part.

9. A picture matching processing system, comprising:

a picture group input part for previously capturing a plurality of pictures of a recognition target in different capturing environments to organize them as a picture group;

a first window picture cutting part for cutting out a first characteristic window picture group from each picture of the recognition target, based on a first standard in which variations in a capturing environment are not considered;

a second window picture cutting part for cutting out a second characteristic window picture group from each picture of the recognition target, based on a second standard in which variations in a capturing environment are considered; and

a robust window picture set selecting part for

setting a window picture group in which window pictures correspond to each other in the same site of the recognition target as a window picture set, among the window pictures cut out from each picture, and

selecting, as a robust window picture set, a window picture set contained both in the first window picture group and in the second window picture group,

wherein picture matching is conducted by using the selected robust window picture set.

10. A picture matching processing system according to claim 9, wherein the picture group previously captured by the picture group input part is a picture group composed of a plurality of series of pictures captured of a recognition target while continuously varying a capturing environment,

the first standard is a standard for tracking each site of the recognition target in the series of pictures of the picture group, thereby cutting out a window picture set; and

the second standard is a standard for cutting out characteristics

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window pictures from each picture of the picture group as independent pictures.

11. A picture matching processing system, comprising:

5   a picture group input part for previously capturing a plurality of pictures of a recognition target in different capturing environments to organize them as a picture group;

         a window picture cutting part for cutting out a characteristic window picture group from each picture of the recognition target;

10   a feature value calculating part for calculating a feature value representing features of the cut out window pictures; and

         a stable window picture selecting part for

                 setting a window picture group in which window pictures correspond to each other in the same site of the recognition target as a

15   window picture set, among the window pictures cut out from each selected picture,

                 comparing feature values of the window pictures contained in the window picture set, and

                 selecting, as a stable window picture, only a window picture

20   set in which a variation width of the feature value is within a predetermined threshold value,

         wherein picture matching is conducted by using the selected stable window picture.

25   12. A picture matching processing system according to claim 11, wherein the picture group is a continuous picture group in which a capturing environment is continuously changed, and

                 in comparison of the feature values of the window pictures contained in the window picture group, a feature value of the window picture cut out

30   from a first picture of the continuous picture group, a feature value of the window picture cut out from a last picture of the continuous picture group, and a feature value of the window picture cut out from at least one selected

intermediate picture are compared with each other.

13. A picture matching processing system according to any one of claims 11, comprising a recognition target picture region cutting part for detecting a recognition target picture region from each picture of the picture group, and setting the recognition target picture region as a cut out picture group.

14. A picture matching processing system according to any one of claims 11, wherein the capturing environment is a relative position and a relative direction between a recognition target and a camera.

15. A picture matching processing system according to any one of claims 11, comprising a window picture selection result display part for displaying selection results of a window picture by the window picture selecting part, and a window picture selection correcting part for correcting selection of a window picture by the window picture selecting part.

16. A picture matching processing system, comprising:

a picture group input part for previously inputting a plurality of pictures of a recognition target in different capturing environments to organize them as a picture group;

a window picture cutting part for cutting out a characteristic window picture group from each picture of the recognition target;

a feature value calculating part for calculating a feature value representing features of the cut out window pictures; and

a projecting part for setting a window picture group in which window pictures correspond to each other in the same site of the recognition target, among the window pictures cut out from each selected picture, and projecting the window picture group onto an eigen space having the feature value as a parameter, in accordance with the feature value,

wherein the projecting part, in selecting a window picture used for projection, selects a window picture cut out from a first picture of the

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continuous picture group, a window picture cut out from a last picture of the continuous picture group, and a window picture cut out from a selected intermediate picture in the continuous picture group, in accordance with a projection point tracking precision.

5   wherein picture matching is conducted by using the selected window pictures.

17. A computer-readable recording medium storing a processing program for realizing a picture matching processing system, the program comprising:

10   window picture cutting processing of cutting out a characteristic window picture group from a previously captured recognition target picture;

          capturing environment variation influence evaluating processing of evaluating influence of variations in a capturing environment of the cut out window pictures; and

15   window picture selecting processing of detecting and selecting a window picture that is unlikely to be influenced by the variations in a capturing environment under a predetermined standard among the cut out window pictures, based on the results of the capturing environment variation influence evaluating processing,

20   wherein picture matching is conducted by using the selected window picture.

18. A computer-readable recording medium storing a processing program for realizing a picture matching processing system, the program comprising:

25   picture group input processing of previously inputting a plurality of pictures of a recognition target in different capturing environments to organize them as a picture group;

          window picture cutting processing of cutting out a characteristic window picture group from each picture of the recognition target;

30   feature value calculating processing of calculating a feature value representing features of the cut out a window picture group; and

          window picture selecting processing of preferentially selecting a

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window picture in which variations in a feature value caused by the difference in a capturing environment are small, among the window picture group cut out from each picture of the recognition target,

wherein picture matching is conducted by using the selected window picture.

19. A computer-readable recording medium storing a processing program for realizing a picture matching processing system, the program comprising:

picture group input processing of previously inputting a plurality of pictures of a recognition target in different capturing environments to organize them as a picture group;

window picture cutting processing of cutting out a characteristic window picture group from each picture of the recognition target;

feature value calculating processing for calculating a feature value representing features of the cut out window picture group; and

window picture selecting processing of comparing feature values of the window pictures corresponding to each other in the same site of the recognition target as a window picture set, among the window pictures cut out from each selected picture, and selecting only a window picture set in which the difference in a feature value is within a predetermined threshold value, wherein picture matching is conducted by using the selected window picture.

20. A computer-readable recording medium storing a processing program for realizing a picture matching processing system, the program comprising:

picture group input processing of previously inputting a plurality of pictures of a recognition target in different capturing environments to organize them as a picture group;

window picture cutting processing of cutting out a characteristic window picture group from each picture of the recognition target;

feature value calculating processing of calculating a feature value representing features of the cut out window pictures; and

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stable window picture selecting processing of setting a window picture group in which window pictures correspond to each other in the same site of the recognition target as a window picture set, among the window pictures cut out from each selected picture, comparing feature values of the window

5   pictures contained in the window picture set, and selecting, as a stable window picture, only a window picture set in which a variation width of the feature value is within a predetermined threshold value,

wherein picture matching is conducted by using the selected stable window picture.

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21. A computer-readable recording medium storing a processing program for realizing a picture matching processing system, the program comprising:

picture group input processing of previously inputting a plurality of pictures of a recognition target in different capturing environments to

15   organize them as a picture group;

window picture cutting processing of cutting out a characteristic window picture group from each picture of the recognition target;

feature value calculating processing of calculating a feature value representing features of the cut out window pictures; and

20   projecting processing of setting a window picture group in which window pictures correspond to each other in the same site of the recognition target, among the window pictures cut out from each selected picture, and projecting the window picture group onto an eigen space having the feature value as a parameter, in accordance with the feature value,

25   wherein the projecting processing, in selecting a window picture used for projection, selects a window picture cut out from a first picture of the continuous picture group, a window picture cut out from a last picture of the continuous picture group, and a window picture cut out from a selected intermediate picture in the continuous picture group, in accordance with a

30   projection point tracking precision,

wherein picture matching is conducted by using the selected window pictures.

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